whole length. The experiments on snails were made by separating the tentacles and closing the end with a clamp, then these were put into a vessel containing moist air and it was noticed that after a time the movements of the tentacles ceased, but if some strong vapor, like that of benzine, was introduced into the vessel the movements would begin again with great activity. From these experiments and others in the same line, the author concludes that it is the sensibility of the segments that is first excited, then this sensation is transferred by contraction, which in its turn agitates mechanically the nerve terminals and is conveyed to the sensorial nerve centers. The first excitation is mechanical, just like that which produces the sensation of touch.

Further observations on the development of taste organs in man, Dr. Frederick Tuckerman.—Journal of Anatomy and Physiology, Vol. XXIV. p. 130.

In the tongue of the human embryo of the tenth week, the organs were so slightly developed as to be hardly worthy of notice, but in the examination of the tongue of the fœtus of the fourteenth week it was noticed that the upper surface was more or less marked by papillary elevations of the mucus membrane. The different layers of the epithelium were also studied. The striated muscle fibres were clearly to be seen, but the striæ were exceedingly faint. Some papillæ of the circumvallate type, in the early stages of development, were present, and the future position of the trachea was clearly indicated. Lateral gustatory organs could be perceived at the sides of the back of the tongue. But little could be learned of the structure of the bulbs in the circumvallate papillae.

Ueber das Vorhandsein von Geschmackiempfindung im Kehlkopf, Dr. P. Michelson.—Archiv fur pathologische Anatomie und Physiologie und fur klinische Medicin. Vol. CXXIII. 389.

The author has studied the special functions of the taste cells of the inner portion of the trachea. He experimented on 25 persons, by putting into the throat upon the end of a bougie concentrated solutions of quinine and of saccharine. Seventeen persons were able to distinguish the bitter taste of the former, three thought it bitterish and the rest were in doubt as to the taste. With the saccharine solution all but three of the twenty-five could recognize the sweet taste. There was one special case in which the bitter could not be detected at all, while the sweet could be readily recognized. Some, in reply to a question as to the locality where the sensation was recognized, said it was where the solution was applied, others that it was in that region, while some simply located it deep in the throat. The electric current was also applied to the same localities, and it was noticed that the application of one pole produced the sensation of an acid taste and the other of an alkaline taste.

Sur la norme de l'acuite olfactive (*olfactie*), Zwaardemaker.—Archives Neerlandaises, XXV. 131.

From the average acuteness of the sense of smell accurately measured in 21 persons with the author's olfactometer, a norm is reached on which is based a system of measuring and recording the acuteness of smell, modeled after that in use by oculists for visual acuteness. The *olfactie* or average *minimum perceptible* of smell is the unit taken for these measurements. The average for a table of proper proportions of these substances and pictures of the olfactometer may be found in the original. When the mixed odors are delivered to the same nostril it might be supposed that they neutralized each other by some chemical